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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/785,084

02/25/2004

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Q79955

8542

23373 7590 03/27/2007
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EXAMINER

SAMPLE, DAVID R

ART UNIT

PAPER NUMBER

1755

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

03/27/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/785,084

Applicant(s)

TANAKA ET AL.

Examiner

David Sample

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1755

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 February 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4, 7 and 11-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 11-13 is/are allowed.
- 6) ☒ Claim(s) 1-4 and 7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Any rejections and/or objections, made in the previous Office Action, and not repeated below, are hereby withdrawn.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 102

Claims 1-4 and 7 are rejected under 35 U.S.C. 102(e) as being anticipated by Sakuta et al. (US 6,905,993).

Sakuta et al. discloses stabilized zirconia ceramics which have the tetragonal crystal structure. See the abstract, and Table 1. The ceramics contains on the order of 3 mole percent Y_2O_3 and have an average grain size on the order of 0.2 to 0.3 μm . See Table 1, Examples 4, 6, 8, 11, 12, 13, 16, and 17. A ceramic containing 2.6 mole percent Y_2O_3 and 97.4 mol% ZrO_2 converts to a ceramic containing 4.7 wt% Y_2O_3 and 95.3 wt% ZrO_2 .

As to the recitations that the average grain size is 0.01 to 0.2 μm and the density is 6 g/cc or more, each of these property limitations are claimed to one significant figure. The reference discloses materials having a grain size of 0.21 μm or 0.18 μm and a density of 5.90 g/cc. See, e.g., Examples 12 and 16, Table 1. To one significant figure, these ceramics have a grain size of 0.2 μm and a density of 6 g/cc.

Sakuta et al. does not disclose the FWHM of the ceramic products. However, the breadth of x-ray diffraction peaks is mainly determined by the grain size of the ceramic that is being measured. A broader peak results from smaller particle/grain size. See, e.g., page 100 of

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Cullity. The ceramics of Sakuta et al. contain an average particle size that is identical to grain size of claim 5. For these reasons, the FWHM properties of claims 1-3 are presumed to be inherent to the ceramic of the reference. See MPEP 2112 for a discussion of inherency.

As to claim 4, the reference discloses that the ceramic is entirely tetragonal zirconia.

The recitations of instant claim 7 can be found in the reference in at least one of Table 1, Examples 4, 6, 8, 11, 12, 13, 16, and 17.

Applicant cannot rely upon the foreign priority papers to overcome this rejection because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.

Response to Arguments

Applicant's arguments filed January 18, 2007 have been fully considered but they are not persuasive.

Applicants argue that the applied reference does not disclose the claimed grain size and density. For the reasons noted above this argument is not deemed persuasive. In particular, when considering a single significant figure for these properties, the reference discloses having a grain size of 0.2 μm and a density of 6g/cc. See Examples 12 and 16, Table 1.

Allowable Subject Matter

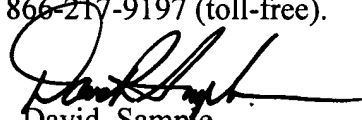
Claims 11-13 are allowed.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Sample whose telephone number is (571)272-1376. The examiner can normally be reached on Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo can be reached on (572)272-1233. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


David Sample
Primary Examiner
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